

WHAT IS CLAIMED IS:

1. A system for self-purchasing a product by a shopper comprising:

conveyor means for receipt and transport of such product;

means providing a security zone extending along at least a portion of said conveyor means;

sensing means at an inlet to said security zone, said sensing means comprising a first article characteristic sensing means and a second article presence sensing means, said first sensing means being positioned upstream of said second article sensing means with respect to the conveyor means, said sensing means generating output signals, each indicative of an entry through said inlet into said security zone;

control means for selective movement of said conveyor means in article acceptance and article rejection senses, said control means being operable for continuance of movement of said conveyor means in article acceptance sense upon occurrence of a first sensing means output signal and for moving said conveyor means in article rejection sense in response to occurrence of another of said first sensing means output signals, and for controlling;

a transaction terminal including:

payment accepting means for enabling said shopper to effect payment for purchased items,

cash dispensing means for providing said shopper with cash by way of change; and

a display screen arranged to guide the customer through a purchasing transaction and to provide to the customer an indication of the total amount to be paid by the customer for purchased items.

Table 1. Demographic characteristics of the study population	
Age (years)	50.0 ± 10.0
Gender (male/female)	100/100
Marital status (married/divorced/separated)	100/100/0
Education (years)	12.0 ± 2.0
Occupation (white/blue)	100/100
Income (USD/month)	1000.0 ± 200.0
Smoking status (smoker/nonsmoker)	50/50
Alcohol consumption (yes/no)	20/80
Family history of hypertension (yes/no)	30/70
Duration of hypertension (years)	5.0 ± 3.0
Current antihypertensive treatment (yes/no)	100/0
Medication (ACE inhibitor/CCB/β-blocker/diuretic)	100/0/0/0
Comorbidities (diabetes/cholesterol)	20/30
Physical activity (yes/no)	40/60
Stress level (high/low)	30/70
Sleep quality (good/poor)	50/50
Depression score (yes/no)	20/80
Overall health status (good/fair/poor)	80/10/10

2. The system according to claim 1, wherein said transaction terminal further includes a cash back feature at the end of said purchasing transaction.
3. The system according to claim 1, wherein said payment accepting means includes card reading means for enabling said shopper to make payment of the total price by means of a debit card or credit card, the card reading means also being arranged to read a customer identifying card used by a customer when carrying out an ATM transaction before the processing of items selected for purchase.
4. A checkout apparatus according to claim 1, further comprising a signature pad for providing a digitized representation of a customer's signature, the digitized representation being stored by the electronic control means.
5. A checkout apparatus according to claim 1, wherein the payment accepting means also includes a currency note acceptor means for enabling a customer to make payment of the total price by paper currency.
6. A checkout apparatus according to claim 1, wherein the payment accepting means also includes a coinage acceptor means for enabling a customer to make payment of all or a portion of the total price with coins.
7. A checkout apparatus according to claim 1, wherein the self-service terminal includes a coin dispenser arranged to dispense coinage due to a customer who has made payment.
8. A checkout apparatus according to claim 3, wherein the card reading means is arranged to read a further customer identifying card used by a customer at the commencement of a checkout transaction.
9. The self-checkout apparatus of claim 1, wherein said customer bar code scanner comprises a laser scanner arranged to scan a bar code carried by an item to be purchased and arranged to send a signal identifying the scanned item to said electronic controller, said electronic controller being further operable to cause said

common display screen to display an identification of the scanned item together with its price as items are scanned.

10. The self-checkout apparatus of claim 9, wherein said sensing means comprises a scale for weighing an item to be purchased, said scale being operative to send to said electronic controller a signal indicative of the weight of the weighed item; and wherein said apparatus further includes a customer operated data entry mechanism for enabling the customer to key in data identifying the weighed item, said electronic controller being further operable to cause said common display screen to display an identification of the weighed item together with its price as the customer keys in data identifying weighed items.
11. The self-checkout apparatus of claim 10, wherein said electronic controller is further operable to cause said common display screen to display to a customer information enabling the customer to determine a code identifying the weighed item.
12. The self-checkout apparatus of claim 1, wherein said self-service terminal includes a printer arranged to print a receipt listing all items purchased by a customer together with the prices of the items purchased and the total price payable by the customer, said self-service terminal being arranged to issue said receipt to the customer in response to the payment by the customer of said total price using a payment acceptor.
13. The self-checkout system according to claim 1, wherein said input means comprises a UPC scanner.
14. The self-checkout system according to claim 1, wherein said input means comprises a keyboard.
15. The self-checkout system according to claim 1, wherein said receiving means comprises a storage area having an opening, wherein said sensor is placed adjacent said opening.
16. The self-checkout system according to claim 1, wherein said controller means

comprises a computer processor.

17. The self-checkout system according to claim 1, wherein said memory means comprises a random-access memory.
18. The self-checkout system according to claim 1, wherein said display means comprises a CRT display.
19. The self-checkout system according to claim 1, wherein said display means comprises an LCD display.
20. A security tag deactivation apparatus for a self-checkout system, said self-checkout system comprising product code input means for inputting identification information of a product, a first conveyor for transporting a product whose code has been input into said system, a security tunnel positioned adjacent a first end of said conveyor, wherein said tunnel includes characteristic measuring means for measuring a characteristic of said product, said apparatus comprising:
 - a first zone for detecting and/or deactivating a security tag, said first zone extending from the an upper portion of said security tunnel down to said conveyor; and
 - a second zone for detecting and/or deactivating a magnetic security tag, said second zone positioned adjacent a second end of said conveyor and extending out from said conveyor in an upward direction.
21. The security tag deactivation apparatus according to claim 20, further comprising a third zone for detecting a magnetic security tag, said third zone provided adjacent said second zone in a conveyor transporting direction.
22. The security tag deactivation apparatus according to claim 20, wherein a strength of at least one of said first and said second zones may be varied.
23. The security tag deactivation apparatus according to claim 20, wherein said first and

said second zones overlap.

24. The security tag deactivation device according to claim 20, wherein a substantial portion of at least one of said first and said second zones lie within a security zone positioned on said conveyor.
25. The security tag deactivation apparatus according to claim 20, wherein said first zone is established by a first deactivator/detector device.
26. The security tag deactivation apparatus according to claim 20, wherein said second zone is established by a second deactivator/detector device.
27. The security tag deactivation apparatus according to claim 21, wherein said third zone is established by a detector device.
28. The security tag deactivation apparatus according to claim 27, wherein a strength of said detector may be varied.
29. A method for deactivating a security tag included on an item comprising:
 - placing an item having a security tag attached thereto on a conveyor for transporting said item a predetermined distance, said conveyor transporting said item through a security tunnel;
 - providing a first zone for detecting and/or deactivating said tag, said first zone extending down from an upper portion of said security tunnel to said conveyor; and
 - providing a second zone for detecting and/or deactivating said tag, said second zone extending up from said conveyor.
30. The method according to claim 29, said method further comprising providing a security tag detection zone in a downstream conveyor direction from said second zone.

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31. The method according to claim 29, said method further comprising varying a strength of at least one of said first and said second zones.
32. The method according to claim 29, said method further comprising overlapping said first and said second zones.
33. The method according to claim 29, said method further comprising varying a strength of said security tag detection zone.
34. A method for deactivating a security tag included on an item comprising:
 - placing an article having an active security tag attached thereto onto a conveyor;
 - providing a first deactivation zone established by a first detector/deactivator extending from a first distance down toward said conveyor a second distance; and
 - providing a second deactivation zone established by a second detector/deactivator extending up from said conveyor a third distance, wherein said second distance is positioned above said third distance, a strength of at least one of said first and said second deactivation zones is varied;
 - providing a security tag detection zone established by a variable strength security tag detector provided adjacent said second deactivation zone; and
 - varying a strength of said security tag detection zone.
35. A method for deactivating a security tag attached to an item in a self-checkout system comprising:

identifying an item having a security tag attached thereto for purchase;

placing said item on a checkout surface;

providing a first deactivation zone extending from a first distance toward said checkout surface to a second distance; and

providing a second deactivation zone extending up from said checkout surface a third distance from said checkout surface, wherein said third distance is positioned below said second distance.

36. A method for deactivating a security tag included on an item in a self-checkout system comprising:

identifying an item having a security tag attached thereto for purchase;

placing an article having an active security tag attached thereto onto a conveyor;

providing a first deactivation zone established by a first deactivator extending from a first distance down toward said conveyor a second distance; and

providing a second deactivation zone established by a second deactivator extending up a third distance above said checkout surface and overlapping said first deactivation zone, wherein

said third distance is positioned above said second distance,

said third distance is positioned between said surface and said first distance,

a strength of at least one of said first and said second deactivation zones may be varied;

providing a security tag detection zone established by a variable

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strength security tag detector, said detection zone provided adjacent said second deactivation zone in a conveyor transporting direction; and a strength of said security tag detection zone may be varied.

37. A self-checkout system for performing a purchasing transaction comprising:

display means for displaying details associated with a purchasing transaction;

input means for inputting a first identification of an article and for inputting a second identification of a coupon;

receiving means for receiving said coupon after said second identification is input, said receiving means having a sensor for detecting when said coupon has been received;

memory means for storage of a database, said database comprising first identification data, second identification data, pricing data associated with said first identification data, credit data associated with said second identification data, and association data; and

controller means for controlling operation of said system.

38. A self-checkout system for performing a purchasing transaction comprising:

a display for displaying details associated with a purchasing transaction;

a UPC scanner for inputting a first UPC code for an article and for inputting a second UPC code of a coupon;

a coupon compartment for receiving said coupon after said second identification is input, said compartment having a sensor for detecting when said coupon has been received;

a memory for storage of a database, said database comprising first UPC code

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data, second UPC code data, pricing data associated with said first identification data, credit data associated with said second UPC code data, and association data comprising information for associating said coupon with said purchasing transaction; and

a controller for controlling operation of said system.

39. A method of conducting a purchasing transaction with a customer in a self-checkout apparatus, said method comprising:

inputting a first identification of an article for purchase;

displaying a price associated with said first identification on a display;

inputting a second identification for a coupon for credit;

validating said coupon, wherein when said coupon is positively validated a credit associated with said coupon is applied against a total of said purchasing transaction, and wherein when said coupon is negatively validated, an error message is displayed indicating that said coupon cannot be used;

receiving said coupon in a coupon receiving area comprising a compartment having an opening with an adjacent sensor for receiving and storing said coupon after said coupon has been positively validated, wherein when said coupon is not received in said coupon receiving area within a predetermined period of time, said credit is withdrawn against said purchasing transaction.

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